



GOES-R Rebroadcast (GRB) Simulator Fact Sheet



Highlights	
Physical Features	2 Transit Cases – Approximately 2'W X 4'L X 4'H stacked together
	Total Weight – Approximately 470 lbs
	Each Transit Case contains: Front and Back removable hard covers, 4 side handles, RJ45 cables, IF cables, USB cables, VGA cables, and power cords
	Transit Case 1 (Top) contains 8-port KVM console, IBM Server, 16-port Network Switch, and Power Distribution Unit
	Transit Case 2 (Bottom) contains Time Code Generator, Dual Channel RT Logic Front End Processor, Dual Channel RT Logic Modem, and Power Distribution Unit
Downlink Specifications	GPS Antenna and cable included
	Input Center Frequency – 1686.6 MHz
	Polarization – Dual Circular: Left-Hand and Right-Hand
	Primary Modulation – 8PSK
	Alternate Modulation - QPSK
	Signal Format – DVB-S2
	Output of the DVB-S2 Demodulator – 15.5 Mbps
Software Features	Bandwidth per polarization: 9.8 MHz for Primary Modulation 10.9 MHz for Alternate Modulation
	Block Length – 64800 bits
	Provides high-fidelity streams of Consultative Committee for Space Data Systems (CCSDS) formatted GRB packet data equivalent to live GRB data
	Simulates Imager (ABI and SUVI) and Non-Imager (GLM, SEISS, EXIS, and MAG) instrument data streaming
	Two Modes of Operation:
	<ul style="list-style-type: none"> Off-line for setup of configurations, scenarios, test patterns, proxy data, and event logs and reports On-line for simulation of GRB packet generation
	Graphical User Interface (GUI) allows users to create, modify, view, and delete configurations, scenarios, test patterns (images), event logs, and reports
	Simulations from GUI are controlled by editable test scenarios
	Scenario scripts specify the test data to use and the series of actions for the GRB Simulator to perform when generating output of GRB packet generation
Test Patterns:	Images – Monochromatic and RGB in JPEG or PNG format
	Proxy Data files (L1b data) in netCDF format
Non-Images – Sine Wave, Triangular, or Square patterns via scenario scripts	